Please substitute the following paragraph for the paragraph starting and ending at page 28, line 4. A marked-up copy of this paragraph, showing the changes made thereto is attached.

B4

-- r2= 128.901 d2=0.15 --.

IN THE CLAIMS:

Please cancel Claims 13-34 without prejudice to or disclaimer of the subject matter recited therein.

Please amend Claims 1, 4, and 12, as follows. A marked-up copy of Claims 1, 4, and 12 showing the changes made thereto, is attached. Note that all the claims currently pending in this application, including those not presently being amended, have been reproduced below for the Examiner's convenience.

Sub C8 B5

1. (Amended) A zoom lens, comprising in sequence from an object side to an image side:

a first lens unit having a positive optical power;

a second lens unit having a negative optical power;

a third lens unit having a positive optical power; and

a fourth lens unit having a negative optical power,

wherein said first, second, third, and fourth lens units move to the object side along an optical axis in zooming from the wide angle end to the telephoto end,

wherein at least one of said first, second, third, and fourth lens units has at least one diffractive optical surface,

wherein the lens units comprising the zoom lens are only said first, second, third, and fourth lens units, and

wherein the shape of the surface closest to the image side in said fourth lens unit is convex to the image side.

2. (Unamended) A zoom lens according to claim 1, wherein said diffractive optical surface comprises concentric circular phase gratings that are rotationally symmetrical with respect to the optical axis of said zoom lens.

Sub C9

3. (Unamended) A zoom lens according to claim 1, wherein at least one of said first lens unit and said fourth lens unit comprises said diffractive optical surface.

Cont'd B5

4. (Amended) A zoom lens according to claim 1, wherein said first, second, third, and fourth lens units are individually denoted as the i-th lens unit, where i equals 1, 2, 3, or 4, wherein when the optical power obtained by the diffractive action of the diffractive optical surface of said i-th lens unit is denoted by φDi, and the optical power of the i-th lens unit is denoted by φLi, the condition $\varphi Di / \varphi Li > 0$ is satisfied.

5. (Unamended) A zoom lens according to claim 1, wherein said first lens unit comprises one positive lens element and one negative lens element.

6. (Unamended) A zoom lens according to claim 1, wherein said second lens unit comprises one negative lens element.

7. (Unamended) A zoom lens according to claim 1, wherein said third lens unit comprises at least two positive lens elements and at least one negative lens element.

8. (Unamended) A zoom lens according to claim 7, wherein said third lens unit comprises a bonded lens.

9. (Unamended) A zoom lens according to claim 1, wherein said fourth lens unit comprises one positive lens element and two negative lens elements.

10. (Unamended) A zoom lens according to claim 1, wherein said diffractive optical surface has a structure formed by laminating phase diffraction gratings composed of materials having different refractive indices.

11. (Unamended) A zoom lens according to claim 1, wherein said diffractive optical surface corrects lateral chromatic aberration.

Sub C10 Contd B5

12. (Amended) Optical equipment, comprising:

an optical-equipment element; and

a zoom lens, connected to said optical-equipment element, said zoom lens comprising in sequence from an object side to an image side:

a first lens unit having a positive optical power;

a second lens unit having a negative optical power;

a third lens unit having a positive optical power; and

a fourth lens unit having a negative optical power,

wherein said first, second, third, and fourth lens units move to the object side along an optical axis in zooming from the wide angle end to the telephoto end,

wherein at least one of said first, second, third, and fourth lens units has at least one diffractive optical surface,

wherein the lens units comprising the zoom lens are only said first, second, third, and fourth lens unit, and

wherein the shape of the surface closest to the image side in said fourth lens unit is convex to the image side.

Sub C11 B6

Please add Claims 35-40 as follows:

–35. (New) A zoom lens, comprising in sequence from an object side to an image side:

a first lens unit having a positive optical power;

a second lens unit having a negative optical power;

a third lens unit having a positive optical power; and

a fourth lens unit having a negative optical power,

wherein said first, second, third, and fourth lens units move to the object side along an optical axis in zooming from the wide angle end to the telephoto end,

wherein at least one of said first, second, third and fourth lens units has at least one diffractive optical surface,

wherein the lens units comprising the zoom lens are only said first, second, third, and fourth lens units, and

wherein said first lens unit consists of a negative lens whose concave surface faces the object side and a positive lens in sequence from the object side to the image side.

36. (New) A zoom lens, comprising in sequence from an object side to an image side:

a first lens unit having a positive optical power;

a second lens unit having a negative optical power;

a third lens unit having a positive optical power; and

a fourth lens unit having a negative optical power,

wherein said first, second, third, and fourth lens units move to the object side along an optical axis in zooming from the wide angle end to the telephoto end,

wherein said first lens unit has at least one diffractive optical surface, and

wherein the lens units comprising the zoom lens are only said first, second, third, and fourth lens units.

37. (New) A zoom lens, comprising in sequence from an object side to an image side:

a first lens unit having a positive optical power;

a second lens unit having a negative optical power;

a third lens unit having a positive optical power; and

a fourth lens unit having a negative optical power,

wherein said first, second, third, and fourth lens units move to the object side along an optical axis in zooming from the wide angle end to the telephoto end,

wherein at least one of said first, second, third and fourth lens units has at least one diffractive optical surface,

wherein the lens units comprising the zoom lens are only said first, second, third, and fourth lens units, and

wherein the zoom lens further comprises an aperture stop, and said aperture stop moves with said second lens unit as a unit in zooming.

38. (New) A zoom lens, comprising in sequence from an object side to an image side:

a first lens unit having a positive optical power;

a second lens unit having a negative optical power;

a third lens unit having a positive optical power; and

a fourth lens unit having a negative optical power,

wherein said first, second third, and fourth lens units move to the object side along an optical axis in zooming from the wide angle end to the telephoto end,

wherein at least one of said first, second, third and fourth lens unit ha at least one diffractive optical surface,

wherein the lens units comprising the zoom lens are only said first, second, third, and fourth lens units, and

wherein said second lens unit consists of a negative lens.

39. (New) A zoom lens, comprising in sequence from an object side to an image side:

a first lens unit having a positive optical power;

a second lens unit having a negative optical power;

a third lens unit having a positive optical power; and

a fourth lens unit having a negative optical power.

wherein said first, second, third, and fourth lens units move to the object side along an optical axis so that the interval between said first lens unit and said fourth lens unit decreases, in zooming from the wide angle end to the telephoto end,

wherein at least one of said first, second, third and fourth lens units has at least one diffractive optical surface, and

wherein the lens units comprising the zoom lens are only said first, second, third, and fourth lens units.

40. (New) A zoom lens, comprising in sequence from an object side to an image side:

a first lens unit having a positive optical power;

a second lens unit having a negative optical power;

a third lens unit having a positive optical power; and

wherein said first, second third, and fourth lens units move to the object side along an optical axis in zooming from wide angle end to telephoto end,

wherein at least one of said first, second, third and fourth lens units has at least one diffractive optical surface,

wherein the lens units comprising the zoom lens are only said first, second, third, and fourth lens units, and

wherein said fourth lens unit comprises a positive lens and two negative lenses.--